

K. Bhaskaran.

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18.6.59 .

Dear Prof. Lederberg,

I am sorry it took so long a time for me to reply to your letter dated March 2. I am grateful to your suggestion that the fertility agent in *V. cholerae* may be like a colicine. Up to the present moment I have no experimental evidence to clarify this point. The technique of Fredericq, suggested by you in which 24-48 hour colonies of P+ strains of *V. cholerae*, sterilized by exposure to chloroform or toluene and then overlaid with a sensitive culture in molten agar, do not give rise to zones of inhibition which live cultures do. Besides *V. cholerae*, other vibrio strains particularly El Tor can be infected with the fertility factor, as judged by the lytic phenomenon, though evidence of gene-recombination with *V. cholerae* has not yet been obtained. I have only tested a few strains of *B. coli* and the results have been negative.

I am now engaged in 'crosses' between mutants of *V. cholerae* 162, I feel that this may be of interest, particularly as I have been able to obtain two mutant stocks one hypoxanthineless and arginineless and the other ~~valine~~-less and isoleucineless. Streptomycin and phage resistance (resistance to lytic phage 200) markers could be introduced in all possible combinations in the 2 parents, in which the fertility factor could also be alternated for each cross. When this study is completed I hope to get some idea of the chromosome of *V. cholerae* 162. Am I too optimistic?

Unfortunately, it has not been possible for me to obtain fermentation mutants of this strain. EMB media are quite unsuitable for *V. cholerae*, but tetrazolium agar is satisfactory.

I am happy to note your kind interest in this work and I do hope you will continue to give me the benefit of your guidance from time to time.

I see no immediate prospect~~in~~ of my visiting your country but when I do, I shall look forward to meeting you. It is kind of you to have arranged for an extensive set of your reprints from Wisconsin.

I shall write to you when I receive them.

I am now on a holiday in South India  
and will be back at Lucknow on 15th July.

Yours sincerely,

*K. Raman*

18.6.59

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